



# User's Manual



# SAB ULTIMEDIA

MPEG4(H.264) HDTV Digital Satellite Receiver

## 8000 HD



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Please read the entire manual thoroughly and retain it for future reference.





# Important safety instructions

## Safety Warnings

	<b>CAUTION</b> RISK OF ELECTRIC SHOCK DO NOT OPEN	
<b>CAUTION :</b> To reduce the risk of electrical shock, do not remove the cover. No user serviceable parts inside. Refer any servicing to qualified Service personnel.		



This symbol indicates that dangerous voltage consisting of a risk of electric shock is present within this unit.



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

Read this manual carefully before using the product. The cautions described below contain important information about safety, and are categorized into: Danger, Warning and Notice.

The company will not take any responsibility for accidents or damage resulting from careless handling by the user.



### Danger

**If the user mishandles the product, there is a risk of loss of life or critical injury.**

- Connect the power cord only to A/C outlets as specified by the user manual or product specification.  
If the power cord is connected to a non-specified A/C outlet, it could result in fire or electric shock.
- The product must not be exposed to water or liquid of any sort, or be exposed to drips or splashes.  
It could result in fire or electric shock.
- Do not place heavy objects, including the product itself, on top of the power cord. If it is damaged, it could result in fire or electric shock.
- Do not place metal objects on top of the apparatus. If metal objects fall into the apparatus, it could result in fire or electric shock.
- Do not repair, disassemble or modify this apparatus yourself. It might cause fire or electric shock.  
If internal checking or maintenance is needed, please contact your service center or agency.
- Do not block or cover any ventilation opening. A fire might result from overheating.
- Turn off and unplug the power as quickly as possible during electric storms.  
Failure to do so could result in fire or electric shock.
- Remove the antenna's power plug from the outlet as quickly as possible during electric storms.  
Failure to do so could result in fire or electric shock.
- Do not drop the apparatus (for example by putting it in a place where it may fall) or subject it to impact.  
The product might be damaged. If it is damaged, please turn off the power and remove the plug from the power outlet, or fire or electric shock may result.
- Never touch the power cord with wet hands. It could result in an electric shock.





## Warning

**If the product is mishandled, the user might receive a serious or minor injury.**

**Damage or loss to the user's property might also result.**

- The product must not be exposed to water or liquid. If the apparatus is exposed to drips or splashes, it might cause a problem that cannot be repaired.
- Do not repair, disassemble or modify this apparatus yourself. It might be seriously damaged, possibly beyond repair.
- Turn off the power and unplug the power cord as quickly as possible during electric storms.  
They might damage the apparatus.
- Remove the antenna's power plug from the outlet as quickly as possible during electric storms, or the apparatus might be damaged.
- Data recorded in the HDD might be lost due to a shock, lightening or electricity failure.  
The user must back up his or her own data, and the company does not take any responsibility for failure to do so.



## Notice

**If the product is mishandled, it might cause minor damage.**

- If the apparatus becomes marked, clean it gently with a soft cloth or towel. Never use chemical solvents such as benzene, thinner, acetone or other solvents. The surface of the apparatus might become discolored and the paint might peel.
- Do not place or keep the apparatus in the following situations. Doing so might cause problems.
  - Where it is too hot or cold.
  - Where there is high humidity.
  - Where there are excessive temperatures, for example in front of airconditioners or heating vents.
  - Where there is dust or soot.
  - In confined areas where the heat cannot be released.
  - Where it is exposed to direct sunlight.
- Turn the apparatus off or unplug the power cord if it is to remain unused for a long period of time.
- Do not place heavy objects on top of this apparatus. It might cause malfunction or damage.
- If the apparatus is so seriously damaged that it cannot be repaired, or has stopped working altogether, dispose of it properly in accordance with the local laws or regulations in your area.

## Disposal

Batteries and packaging material do not belong in domestic waste. The batteries must be delivered to a collection center for old batteries. The separate disposal of packaging materials protects the environment.

### Disposal old electrical & electronic equipment

**(Applicable in the European Union and other European countries with separate collection systems)**



This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product.

The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.





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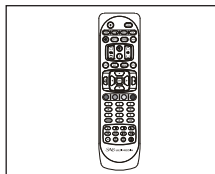




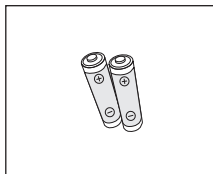
# 1. Getting Start

## 1.1 Package Contents

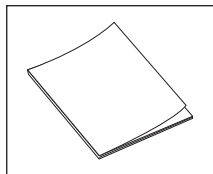
Make sure that the following accessories are supplied with your receiver.



Remote Control Unit



AAA Batteries (2 EA)



User's manual

## 1.2 Front Panel

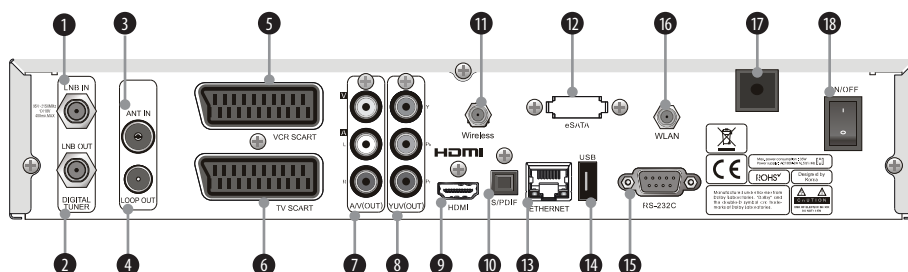


①	▲	Normal Mode	Change to the next channel.
		Menu Mode	Move to the upper item.
	▼	Normal Mode	Change to the previous channel.
		Menu Mode	Move to the lower item.
	➤	Normal Mode	Volume up.
		Change item	Change item.
	➤	Normal Mode	Volume down.
		Change item	Change item.
②	Menu	Normal Mode	Display the Main Menu.
		Menu Mode	Go to the sub menu.
③	Display window		Displays the current state such as channel, time, and message.
④	POWER		Turn on & off the power.
⑤	Exit		Return from menu.
⑥	Smartcard Slot		Insert a Smartcard.





## 1.3 Rear Panel

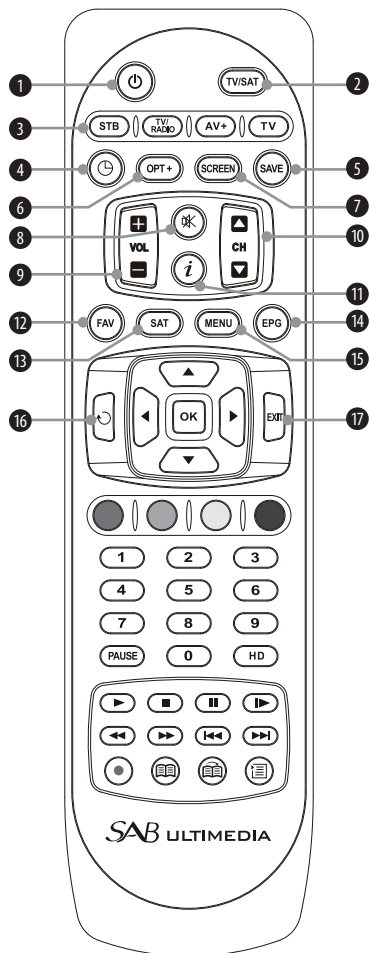


1	<b>LNB IN</b>	Connect satellite antenna.
2	<b>LNB OUT</b>	Connect to the other satellite receivers.
3	<b>ANT IN</b>	Connect TV antenna or CATV cable.
4	<b>LOOP OUT</b>	Connect TV.
5	<b>VCR SCART</b>	Connect VCR.
6	<b>TV SCART</b>	Connect TV.
7	<b>A/V(OUT)</b>	Connect TV (Left/Right)
8	<b>YUV(OUT)</b>	Connect TV through Y/Pb/Pr.
9	<b>HDMI</b>	Connect TV through HDMI.
10	<b>S/PDIF</b>	Connect TV Digital Amplifier (Optional).
11	<b>Wireless</b>	Internal Wireless Module(Optional).
12	<b>eSATA</b>	Support SATA hard disk for PVR.
13	<b>ETHERNET</b>	Connect TV LAN cable.
14	<b>USB</b>	Connect USB memory.
15	<b>RS-232C</b>	Connect PC for software upgrade.
16	<b>WLAN</b>	Wireless LAN(Optional).
17	<b>POWER Supply</b>	100-240V~, 50/60Hz, MAX 35W.
18	<b>POWER SWITCH</b>	Switch Power ON/OFF.





## 1.4 Remote Control Unit

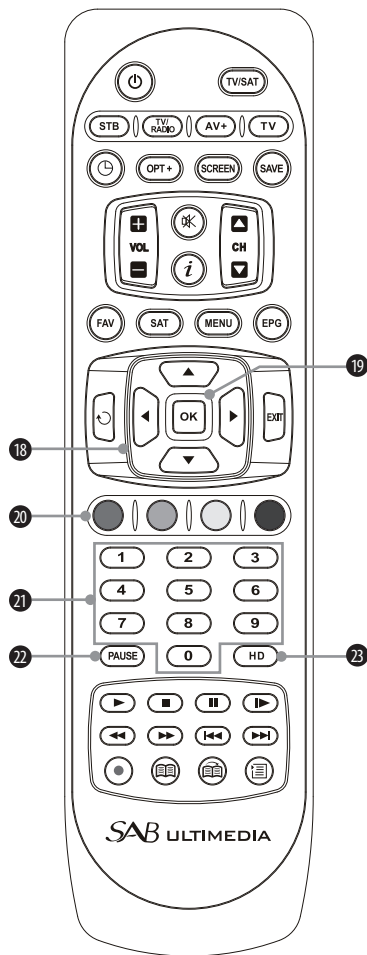


1	<b>Power</b>	Power On/Off.	
2	<b>TV/SAT</b>	Switch TV or SAT mode.	
3	<b>STB</b>	Select STB.	
	<b>TV/RADIO</b>	Switch TV/Radio mode.	
	<b>AV+</b>	Digital Audio, Teletext, Subtitle menu.	
	<b>TV</b>	Select TV.	
4		Sleep timer.	
5	<b>SAVE</b>	Save current volume & channel.	
6	<b>OPT+</b>	Show additional function menu.	
7	<b>SCREEN</b>	Set screen format.	
8		Mute the sound.	
9	<b>VOL</b>	Adjust the volume.	
10	<b>CH</b>	Normal mode	Change channel.
		Menu mode	Move menu item.
11	<b>i</b>	Show the current channel information.	
12	<b>FAV</b>	Show Favorite Channel List.	
13	<b>SAT</b>	Selects satellite.	
14	<b>EPG</b>	Show the Electronic Program Guide.	
15	<b>MENU</b>	Normal mode	Show the main menu.
		Menu mode	Return to the previous menu.
16		Go back to previous channel.	
17	<b>EXIT</b>	Return to the previous menu.	





## 1.4 Remote Control Unit

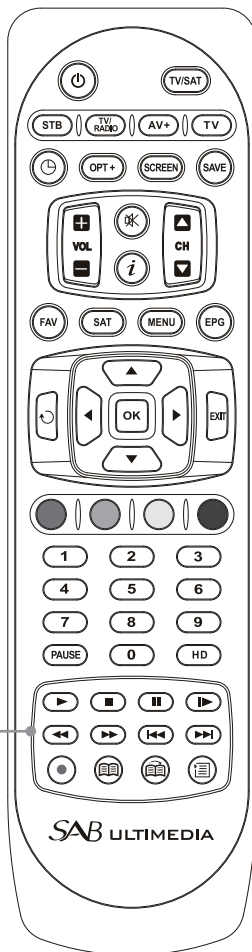


18	VOL ◀▶	Normal mode	Adjust the volume.
		Menu mode	Change the left/right item
	CH ▲▼	Normal mode	Change channel.
		Menu mode	Move menu item.
19	OK	Normal mode	Show the channel list.
		Menu mode	Execute the select item.
20	Color Key	Normal mode	Additional Menu <b>Red</b> - Fine tune menu. <b>Yellow</b> - Configure Disecq1.2 / Positioner. <b>Green</b> - Additional Menu.
		Menu mode	Selected function according to the Menu.
21	Numeric buttons	Normal mode	Select channel.
		Menu mode	Directnumeric key entry.
22	PAUSE	Pause screen.	
23	HD	Sort HD channel only.	





## 1.4 Remote Control Unit



	<b>PLAY</b> <ul style="list-style-type: none"> <li>• Change to normal speed in trick mode.</li> <li>• Show play navigation bar in normal speed.</li> </ul>
	<b>STOP</b> <ul style="list-style-type: none"> <li>• Stop file playback and watch live channel in time-shift or playback.</li> <li>• Stop recording.</li> </ul>
	<b>PAUSE</b> <ul style="list-style-type: none"> <li>• Pause or resume play.</li> </ul>
	<b>SFWD(Slow forward play)</b> <ul style="list-style-type: none"> <li>• Change to slow speed forward play.</li> <li>• Speed: 1/2x, 1/4x, 1/8x.</li> </ul>
	<b>FREV(Fast reverse play)</b> <ul style="list-style-type: none"> <li>• Change to fast speed reverse play.</li> <li>• Speed: -x2, -x4, -x8, -x16, -x32, -x64.</li> </ul>
	<b>FFWD(Fast forward play)</b> <ul style="list-style-type: none"> <li>• Change to fast speed forward play.</li> <li>• Speed: x2, x4, x8, x16, x32, x64.</li> </ul>
	<ul style="list-style-type: none"> <li>• Go to start position.</li> </ul>
	<ul style="list-style-type: none"> <li>• Go to end position.</li> </ul>
	<b>RECORD</b> <ul style="list-style-type: none"> <li>• Record current channel.</li> </ul>
	<b>BOOKMARK</b> <ul style="list-style-type: none"> <li>• Set Bookmark in time-shift or playback.</li> </ul>
	<b>BOOKMARK JUMP</b> <ul style="list-style-type: none"> <li>• Jump to bookmark.</li> </ul>
	<b>BROWSER</b> <ul style="list-style-type: none"> <li>• Show File List.</li> </ul>



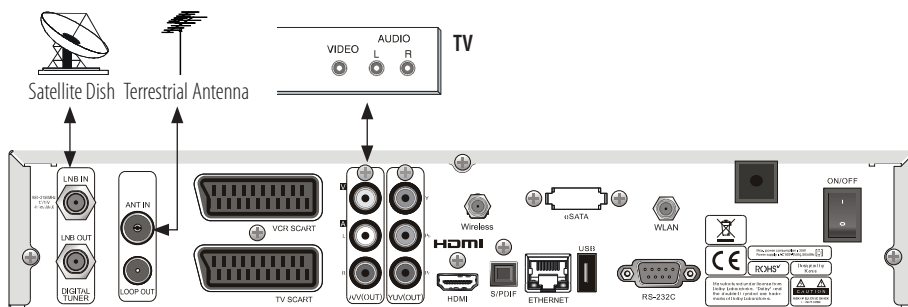
## 1.5 Connecting Your Equipment

Connect related equipments to STB as below.

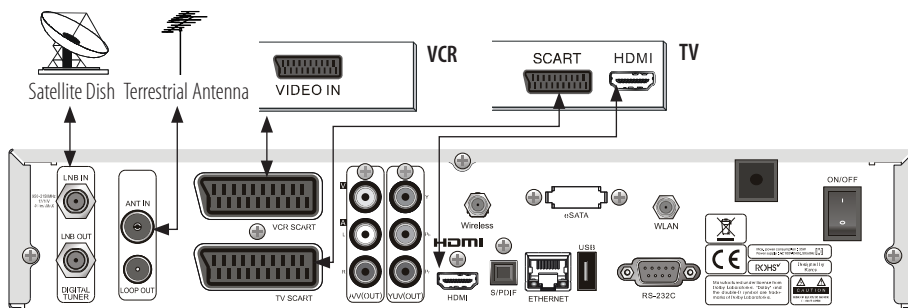
### Note

When you connect STB to TV by using SCART, please fit the CLAMP FILTER near SCART jack.

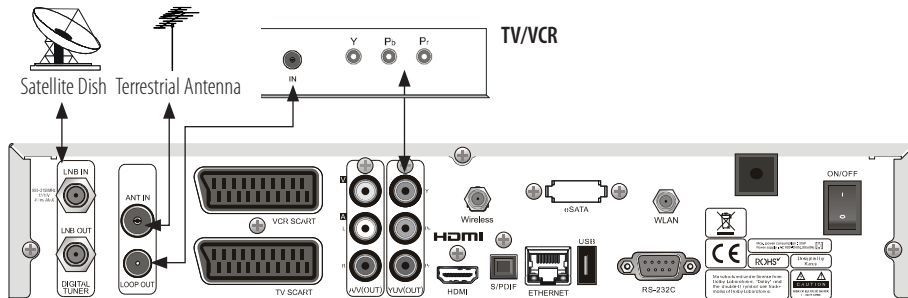
### 1.5.1 Connect TV with RCA cable



### 1.5.2 Connect TV/VCR with SCART / HDMI cable



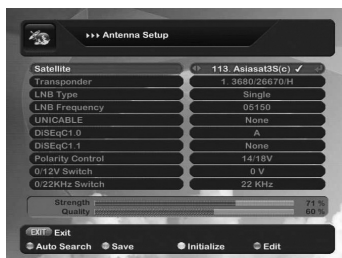
### 1.5.3 Connect TV/VCR with YUV/Terrestrial cable install





## 2. Installation

### 2.1 Antenna setup



- **Satellite :** Select any satellite by pressing ◀▶ keys.  
(Press blue key to edit the name of the satellite)
- **Transponder :** Select a transponder.
- **LNB Type :** Dual / Universal, Single, OCS, Wideband, Digiturk MDU1, Digiturk MDU2.
- **LNB Frequency :** Select a proper LNB frequency.  
(Press blue key to input local frequency)
- **UNICABLE :** Select a unicable channel.
- **DiSeqC 1.0 & 1.1 :** Select between "None" or "DiSeqC1.0 A, B, C, D" and "DiSeqC1.1 1 ~ 16".
- **Polarity Control :** Select one out of "14/18V", "0/12V", "0/22KHz".
- **0/12V Switch :** Select between "0V", and "12V".
- **0/22KHz Switch :** Select between "0KHz", "22KHz", "Auto".

#### Note

Make sure to save searched channels before exit.

Press **YELLOW** button to initialize satellite value.

After Antenna setup, you can move to Auto search menu with **RED** button.

### 2.2 Motor Setup



You can Select "None", "DiSeqC1.2", or "USALS" by pressing ◀▶ keys.

- **Motor Type :** Select a motor type by pressing ◀▶ keys.  
(Press blue key to edit the name of the satellite)
- **Satellite :** Select a Satellite.
- **Transponder :** Select a transponder.

#### 2.2.1 Setting up DiSeqC1.2

In the Motor Setup Menu, select the DiSeqC1.2 then the following menu will be displayed.

- **Satellite :** Select a satellite by pressing ◀▶ keys.  
(Press blue key to edit the name of the satellite.)
- **Transponder :** Displaying current TP value.
- **Nudge Size :** Motor move step (1-5).
- **Move Coarse :** Move west (◀ key), Move east (▶ key).
- **Move Fine :** Move by the value of Nudge size.
- **Motor Control I :** GOTO, SAVE, GOTOREF.
- **Limit Setup :** Setting limit.
  - **EAST LIMIT :** Confirming the setting of East Limit.
  - **WEST LIMIT :** Confirming the setting of West Limit.
  - **DELETE LIMIT :** Delete the setting of East & West Limits.

#### Note

##### Setting DiSeqC 1.2

1. Select DiSeqC 1.2 in the Motor setup menu.
2. Select satellite.
3. Move motor until you see good signal.
4. After searching satellite, SAVE current position.
5. Repeat this operation for other satellites.
6. Go to Auto search menu with RED key.

##### Setting USALS

1. Select USALS in the Motor setup menu
2. Enter longitude and latitude value
3. Save current setting in move control
4. Move motor to current satellite position and check signal.
5. Go to Auto search menu with RED key





## 2.2 Motor Setup

### 2.2.2 Setting up USALS

Select the USALS in the Motor Setup menu, and press OK key to display following menu.

- **Satellite :** Select a satellite by pressing ◀▶ keys.
- **Transponder :** Displaying current TP value.
- **Satellite Position :** You can edit the position of satellite.
- **Longitude :** Setting the longitude position.
- **Latitude :** Setting the latitude position.
- **Move Coarse :** Move DiSeqC1.2 motor manually. Move west (▶), Move east (◀).
- **Move Fine :** Moves depending on the value of Nudge size.
- **Motor Control :** GOTO, SAVE, GOTOREF.
- **Limit Setup :** Setting limit.
  - EAST LIMIT : Confirming the setting of East Limit.
  - WEST LIMIT : Confirming the setting of West Limit.
  - DELETE LIMIT : Delete the setting of East & West Limits.

## 2.3 Auto Search



All channels will be searched if the selected satellite is properly assigned in the Antenna Setup menu.

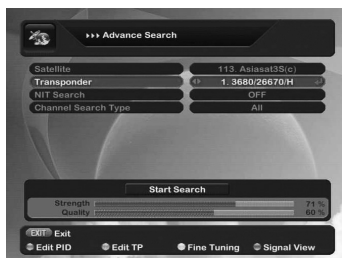
- **Search Type**
  - Multi Satellite : Search multiple satellites as you select in pop-up window.
  - One Satellite : Search only the current satellite.
  - Multi Transponder : Search multiple TS in transponder pop-up window.
  - One Transponder : Search current transponder.
- **Satellite :** Select one of Satellite.  
(Select satellite in the auto search menu and press RED key to Multi Satellite Register)
- **Transponder :** Select one of transponders in TP list.
- **NIT Search :** Activate network search mode.
- **Channel search Type :** Select one of search Type between "ALL", "FTA", "Scramble", "All TV", "FTA TV", "RADIO", "Scramble TV", "All RADIO", "FTA RADIO", "Scramble RADIO".







## 2.4 Advanced Search



When a new satellite is launched or you want to search channels from a satellite which is not programmed, you can edit all of the transponders of the satellite by this function and then channels can be searched by "Advance Search".

- **Edit TP :** When you press GREEN key, EDIT TP menu It will be displayed, The settings of "Frequency", "Symbol Rate", "Polarization", and the other of selected transponder will be displayed in each field.
- **Edit PID :** When you press RED key, Select any out of iDEC, iHEX.
- **Find Tuning :** When you press YELLOW key, You can control iAGC Value, iBandwidth.
- **Signal View :** You can show the signal status.

## 2.5 Blind Search



When a new satellite is selected or you want to search all Transponder from a satellite which is known or unknown transponder.

## 2.6 Fast Scan



You want to search channels from Canal Diditaal Fast Scan, TV Viaanderen Fast Scan and Telesat Fast Scan.





## 2.7 Terrestrial



You can edit all of the Frequency of the Terrestrial by this function. And then channels can be searched by Terrestrial.

# 3. Channel / Event

## 3.1 Channel Control

Channel Control consists of TV channel control and Radio channel control.

All kinds of channel editing functions can be performed in this menu like Channel view, Edit Name, Set/Clear favorite, Lock/Unlock, Edit PID, Move and Delete.

### Note

By default, there's no channel list for both TV and Radio.  
Be sure to perform search channels before use.



### 3.1.1 Channel Mode

In order to control various channel lists, Channel Mode function keys assist users to organize many channels within their scope of action.

There are various keys to help you to perform channel control functions in help line.



### 3.1.2 Edit Mode

Press OK key then select channel Edit mode.





## 3.1 Channel Control



### 3.1.3 Edit Name

Edit the name of the selected Channel.

Select one channel and press OK key and then you can edit name.



### 3.1.4 Favorite Channels

Select Set/Clear FAV in the channel control popup menu, then another popup menu will appear on the right side of the screen (e.g. News, movie, drama). Select one of them and press OK to add to your favorite list. Then favorite icon will appear beside the channel name To deselect, go to the selected channel and press OK.



### 3.1.5 Lock/Unlock Channels

Select Lock/Unlock in the channel control menu. Press OK on the channel that you want to change. Then lock icon will appear beside the channel name. It will confirm that the channel is locked.

To unlock the channel, use ◀▶ key on the remote, and press OK on the channel.



### 3.1.6 Hide Channel

Select Hide Channel in the edit channel popup menu.

Press OK on the channel that you want to set and clear hide channel.

To Show/disappear the Hide channel, you have to enter private password by pressing REC key.





## 3.1 Channel Control



### 3.1.7 Edit PID

Edit Video PID, Audio PID, PCR PID with Hex or decimal code.

If you want to change PID number, press RED key to Enter value by yourself.



### 3.1.8 Move

Change the position of the selected channel in the channel list.

Select MOVE in the edit channel popup menu, Press OK on the channel that you want to move, use press UP/DOWN key to locate channel position and RED (move channel) key and then Press EXIT key to save.



### 3.1.9 Delete

Delete the selected channel or TP.

Select delete in the edit channel popup menu, press OK on the channel that you want to delete, and RED(delete channel) key or Yellow (delete all)

## 3.2 Event Timer

Set the STB work in reservation mode to Wake up and Sleep using Timer.



Add the event in the list by the Green key, and edit the selected event in the list by the Red key.

To delete the event, press the Yellow key.

**Ch View** : Set the watching channel for turn ON/OFF time, cycle, etc.

**Wakeup** : STB will be automatically powered on by setting of Wakeup time.

**Sleep** : STB will be automatically powered off by setting of Sleep time.

**Record** : Record the reserved channel.



# 4. Menu Guide

## 4.1 Channel List



Press OK key while watching video, then Channel List menu will be shown depends on channel mode (Sort mode). If the channel mode (Sort mode) is favorite mode, then Favorite channel list will be displayed. You can search the channel by sort function.

### 4.1.1 Satellite sort

If you want to change satellite select mode, press SAT key, and then Small pop-up window will be displayed, select one among them by pressing OK, and then select channel by pressing OK. Then the satellite select will be changed.



### 4.1.2 Alphabet Sort

If you want to change alphabetical mode, press Green key, and then Small pop-up window will be displayed, select among them by pressing LEFT/RIGHT/UP/DOWN, and then select alphabet by pressing OK. Then the alphabetical mode channel list will be changed.

### 4.1.3 HD Sort

If you want to change into HD sort mode, press HD key.



### 4.1.4 Favorite Sort

If you want to change Favorite Sorting mode, press FAV key, and then Small pop-up window will be displayed, select among them by pressing UP/DOWN, and then select Fav. list by pressing OK. Then the Favorite channel list will be changed.



### 4.1.5 TP Sort

If you want to change TP (Transponder) Sorting mode, press Yellow key, and then Small pop-up window will be displayed, select among them by pressing UP/DOWN, and then select TP list by pressing OK. Then the TP channel list will be changed.

### 4.1.6 CAS sort

If you want to change into CAS Sorting mode, press Blue key, and then Small pop-up window will be displayed, select one among them by press UP/DOWN, and then select another CAS list by press OK. Then the CAS channel list will be changed.



## 4.2 Channel Guide



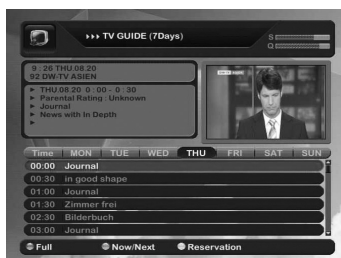
### 4.2.1 Channel Guide

Press EPG key while watching channel, then TV GUIDE menu will be shown.

The EPG menu consists of Channel number, Event name and the flag of extended event description.

Brief TV guide information of current channel will be displayed on the bottom of the screen.

By pressing RED key, select FULL TV Guide.



By pressing GREEN Key, 7-Days Guide will be displayed. And it is possible to move Now to guide and Next guide by pressing LEFT/RIGHT key.

Information consists of Event Name, Event Description and Extended Event Description



By pressing YELLOW button, you can easily set reservation schedule.

## 4.3 Normal Mode



For more detailed channel information, some channels are supporting Teletext/ Subtitle service.

There are two types of EBU Teletext service as followings:

This satellite receiver supports the both types.

- **VBI** : Supported by TV and controlled by Teletext key on TV remote controller.
- **STB** : Supported by satellite receiver and controlled by receiver's remote controller.

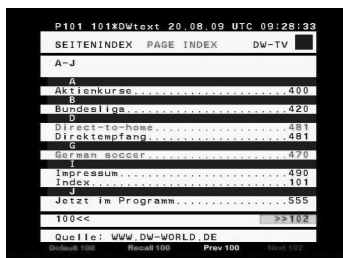




## 4.3 Normal Mode

Press AV+ key in the normal mode.

Choosing a Teletext service, then it will display to Teletext from current channel



< Teletext Mode >



< Subtitle >



### 4.3.1 Audio Control

Press AV+ key, then you can see Audio pop-up window and you can select audio language and audio mode (Left, Right, Stereo).



### 4.3.2 Fine Tuning

When the signal is very poor, you can change the user value in fine tuning menu, for better reception.

Press RED key in the normal mode, then select Fine Tuning.



### 4.3.3 Auto Channel Change

Press UP/DOWN key for 2 ~ 3 seconds, then you can see auto Channel message on the channel information and you can change the time of auto channel change.





## 4.4 System Setup

### 4.4.1 OSD Setup

In Normal Mode, Press MENU key, then select System Setup Menu and select OSD menu.



#### 4.4.1.1 Language

You can set language which will be used for displaying menu. You can select English, French, Russian, Arabic, Persian, Turkish, Italian, and German.

#### 4.4.1.2 Audio Language

You can set the default audio language.

#### 4.4.1.3 Subtitle Language

You can set the default subtitle language.

#### 4.4.1.4 Banner Time

You can set the displaying duration of Banner menu.

- **Time Range** : From 1 to 30 seconds.

#### 4.4.1.5 Transparency

You can set the transparency of menu screen. 9 levels of the transparency are supported.

Ranges from 0% to 80%.

#### 4.4.1.6 Main Image

You can set the type of main still image for background.

#### 4.4.1.7 Logo Image

You can set the Logo Image display ON/OFF.

### 4.4.2 Video

Press MENU key in Normal Mode, then select System Setup, and select Video submenu.



#### 4.4.2.1 Screen Ratio

You can select the aspect ratio of TV screen according to your TV type. 4:3 and 16:9 modes are supported.

#### 4.4.2.2 Screen Format

If the Screen Ratio is 4:3, there will be choices as Letter Box, Center, combined, and Full.

If the screen Ratio is 16:9, you will have choice as letter Box and Center and Full.







## 4.4 System Setup

### 4.4.2.3 Display Format

You can select Display Format according to your TV type.

"PAL", "NTSC", "SECAM", and "PAL & NTSC" modes are supported.

### 4.4.2.4 Display Size

1080i, 720p, 576p, 480p.

### 4.4.2.5 Deinterlacer

You can turn on/off the Deinterlacer.

If you set the deinterlacer value to ON, HDMI/YUV picture quality of SD channels will be improve.  
but, channel change speed will be slower.

### 4.4.2.6 YUV Output

You can turn on/off TV Component output.

If you want to set the video mode for TV SCART(RGB), then turn off the YUV Output and change SCART Output to RGB.

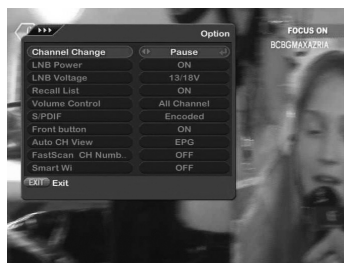
### 4.4.2.7 SCART Output

You can set the video mode for the TV SCART output, by pressing OK key, then press ▲▼ key on the remote control unit.

2 Video Output as RG/ CVBS are supported.

### 4.4.3 Option

Press MENU key in Normal Mode, then select System Setup menu, and select Option.



#### 4.4.3.1 Channel Change

You can select the way of changing the channel by pressing OK key, then press ▲▼ key on the RCU.

**Supported mode :** Blank, Fade

#### 4.4.3.2 LNB Power

You can set the LNB Power ON/OFF by pressing OK key, then press ▲▼ key on the RCU.

#### 4.4.3.3 LNB Voltage

You can set LNB voltage by pressing OK key, then press ▲▼ key on the remote control unit.

**Supported voltage :** 13/18V, 14/19V.

#### 4.4.3.4 Recall List

If you set it "ON", you will be able to see the "Recall List" when you press RCL button.

If you set it "OFF", you can go back to the previous channel only.

#### Note

Recall list is the menu in which you can see the channels you watched past.





## 4.4 System Setup

### 4.4.3.5 Volume Control

You can set the Volume Control by pressing OK key, then press ▲▼ key on the RCU.

**Supported mode** : All Channel - the volume value of all channel same value channel - every channel can have different volume value.

### 4.4.3.6 S/PDIF

You can set the S/PDIF output mode, Encoded and PCM.

### 4.4.3.7 Front Button

You can set ON/OFF

- **ON** : Front Key is working
- **OFF** : Front Key is not working

### 4.4.3.8 Auto CH View

You can set the channel change mode in Channel List and EPG Menu.

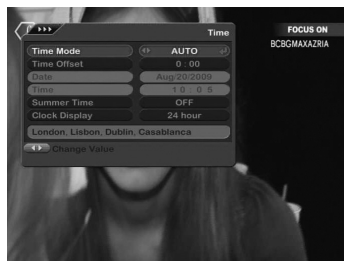
If you set the EPG or CH List, you can change channel by moving item in each menu.

### 4.4.3.9 FastScan CH Number

You can set the logical channel number mode. It is supported by the Program Provider.

### 4.4.3.10 Booster

You can turn on the Booster(electric power of Antenna).



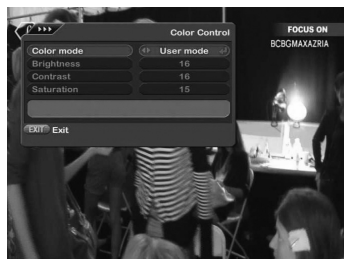
### 4.4.4 Time

Mode, then select System Setup menu, and select Time menu.

#### • Time Offset

Press ◀▶ key to set the Current Time.

For your reference, when you scroll time zone, the name of city will be displayed.



### 4.4.5 Color Control

If you want fine tuning for color value, press MENU key in Normal Mode, then select System Setup menu, and select Color Control menu.

#### 4.4.5.1 Color Mode

You can set the Color Mode.

**Supported mode** : User, Movie, News, Sports.





## 4.4 System Setup



### 4.4.6 Parental Control

You can prevent children from watching channels, which are unsuitable for them. Only the person who knows the password can watch the prohibited channels. In the parental control menu, you can select four password options.

#### 4.4.6.1 Lock Grade

Change the password options by ◀▶, None, Menu, channel, Menu & Channel. Password is made up of 4 digit numbers; it is never shown on the screen. Only asterisks appears as you input password, when you select the locked channel in "Favorite TV/Radio" or "TV/Radio channel Control", you will find the following message "Key in Password" on screen. Then please insert your password.

## 4.5 Additional Function



### 4.5.1 Channel Information

#### • Basic Box

This is the information box containing "Program Number", "Program Name", "Signal Quality bar", "Current Time", and "Provider name" only.

#### • Extended Box

This has additional information like and Satellite, channel Frequency and CAS Type as well as basic Channel Information.





## 4.6 Module

### 4.6.1 CI Slots

The CI (Common Interface) is an interface for a standard PCMCIA module in receiver. If you want to watch a scrambled channel, you need CAM (Conditional Access Module) and Smart Card to the channel.

CI menu is provided by CAM and its Smart Card.

This menu will be activated if you insert the CAM. In the slot CI menu varies according to the kind of CAM and its Smart Card.



### 4.6.2 Network Setup

#### • Pathway

You can select the network device to use.

- eth0 : Wired network device
- pci\_eth0 : Mini PCI type wireless network device
- usb\_eth0 : USB type wireless network device

If you want to use wireless network, you must attach the wireless network device in the STB.



#### • Method

- STATIC : Static IP address can be used by entering the reserved IP address.
- DHCP : If DHCP (Dynamic Host Configuration Protocol) is selected, IP address and all the basic TCP/IP protocols set automatically.



#### • AP List

If you use the wireless network device, AP(Access Point) List menu will be activated.

You can select the AP(Access Point).



#### • Password

Input the password of the selected AP(Access Point).

#### • Ping Test

Verify the status of network connection to the server.





## 4.6 Module

### 4.6.3 Software Upgrade

For Software upgrade, enter the server IP address which is defined by the Service Operator.

### 4.6.4 Embedded

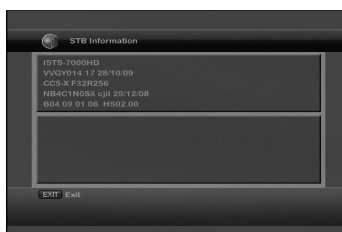
This menu is for Free To Air + Embedded, and This menu allows you to view the information of the smart card such as available entitlements, Maturity Rating and PIN code.

## 4.7 STB Status



### 4.7.1 Factory Value

This function will reset all the parameters as factory default value. When this menu is selected, the message will be displayed on the screen. You can change each field into default data in Factory Value.



### 4.7.2 STB Information

STB Information shows STB software version, data, etc for your reference. At the top of the page you will see the software version of the STB.



## 5. eSATA PVR Guide

### 5.1 PVR Setup



You can change the PVR configuration in PVR Setup menu.

To enter this menu, press MENU key in normal mode, and go to Channel / PVR menu, then select PVR Setup.

- **Time Shift** : Configuration for recording the current channel automatically. If you set Time Shift to Enable(1 or 2 Hour), you can use time shift without recording a channel explicitly.
- **Default PVR Path** : Configuration for selecting the default recording device. If you attached the storage -SATA, USB-device, then you can select the default recording device.
- **Record Duration** : Configuration for default user record duration. If you select 2 Hour, then you can record a 2-Hour of channel when you record.

### 5.2 Media Setup



You can see the information of hard disk and format a hard disk in Media Setup menu. To enter this menu, press MENU key in normal mode, and go to Channel / PVR menu, then select Media Setup.

You can use an external SATA storage, external USB storage and USB memory stick. And it supports FAT16, FAT32, EXT2 and EXT3 file systems.

You can select the storage-SATA, USB- device in Media and select its partition. If your storage is not formatted or formatted with an unsupported file system, at first you have to format it. All data in the storage are removed when you format, so please backup your data before format. You can format hard disk by pressing OK key on Format item.

There are two ways of formatting hard disk - Media, Partition.

Media type is to format whole partition in hard disk and Partition type is to format the partition that you select in Partition item.


You can delete all files in partition that you select with RED key.

You want to extract the hard disk, please do safe remove by pressing GREEN key.



## 5.3 File Browser



You can see the files that you recorded and other media files(ex JPEG) in File Browser. To enter this menu, press BROWSER(  ) key in normal mode. You can see the file information (size, date, duration etc) here. You can play a media file by pressing OK key on a file that you want to play. If you select a recorded channel, then you can select how to play.



- **First** : Playback from first position
- **Continues** : Playback from last stop position
- **Descramble** : Playback from last stop position

Press EXIT key in File Browser, then you can watch a file playback in full screen. If the file is reached to end time, then file playback will be stopped and be changed to live channel

If you want to play other media file(Photo or Music), then please change the Media file type by pressing the color keys as follows.

- **Red** : Video (Video Files List)
- **Green** : MP3 (MP3 Files List)
- **Yellow** : JPEG (JPEG Files List)
- **Blue** : Software (Software Files List)



You can select the storage device with INFO key.

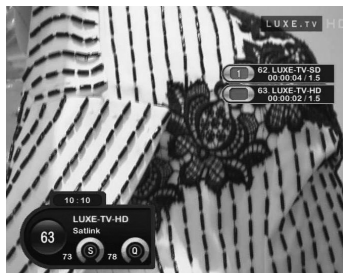
You can do the additional functions with OPT+ key.

In these functions you can delete file and you can sort file lists by Alphabet, Date, or Size.





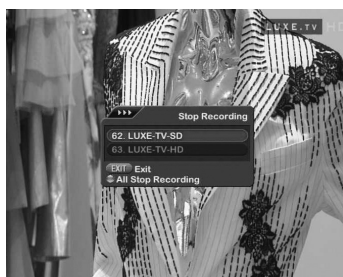
## 5.4 Instant Recording




You can start recording a channel that you are watching by pressing RECORD(  ) key. You can record 3 channels in same transponder



The default duration is set in PVR Setup Menu and file name is derived from channel information. You can change duration by pressing RECORD(  ) key one more.







To stop recording, press STOP(  ) key then you can stop recording by pressing OK key on the list that you want to stop or stop all recording by pressing RED key.

While you are recording channel, you cannot enter some menu (such as Installation, Media Setup, etc..)

## 5.5 Time Shift

Time Shift is a time-delayed broadcast of the channel that you are watching. To use time shift, the channel must be recorded. In other word, Time Shift option must be set to 1 or 2 Hour in PVR setup menu or you have to record the channel explicitly.

- 1) Pause a channel by pressing PAUSE(  ) key while you are watching a channel, then you can see the shifted time in message
- 2) Resume the channel by pressing PAUSE(  ) or PLAY(  ) key later, then you can watch the time-delayed channel.
- 3) If you want to jump to live channel, please press STOP(  ) key.







## 5.5 Time Shift






You can also shift a time with trick play key in normal mode and seek key in the Play Navigation. Please refer to Trick Play and Play Navigation.

## 5.6 Trick Play

You can change the playback speed while you are in time shift mode or watching a file playback.

You can use trick function in normal mode or progress bar. Trick play function supports fast forward, fast reverse and slow forward as follows.

- **Slow Forward play**(  ):  $\frac{1}{2}x$ ,  $\frac{1}{4}x$ ,  $\frac{1}{8}x$
- **Fast Reverse play**(  ):  $-x2$ ,  $-x4$ ,  $-x8$ ,  $-x16$ ,  $-x32$ ,  $-x64$
- **Fast Forward play**(  ):  $x2$ ,  $x4$ ,  $x8$ ,  $x16$ ,  $x32$ ,  $x64$

If you press trick key repeatedly, playback speed is changed to each step and speed is changed to normal speed in last step.

If you press PLAY(  ) key in slow or fast speed playback, then playback speed is changed to normal speed also.

## 5.7 Play Navigation



You can change the time position of playback in Play Navigation Bar.

To enter Play Navigation Bar, press PLAY(  ) key while recording a channel or watching a file in normal speed.

To change the previous or next position of playback, press LEFT, RIGHT key in Play Navigation Bar.

You can also use trick play key in this bar.





## 5.8 Getting Ready

Please follow below steps to get ready for recording function.

### Preparation

This function works with external HDD with Serial ATA interface (eSATA HDD).

### Connecting eSATA HDD to the Set Top Box

- 1) Ensure the power of both devices are turned off.
- 2) Connect STB and eSATA HDD with eSATA Cable.
- 3) Turn on the eSATA HDD.
- 4) Turn on the STB.

### Formating eSATA HDD with HDD Manager

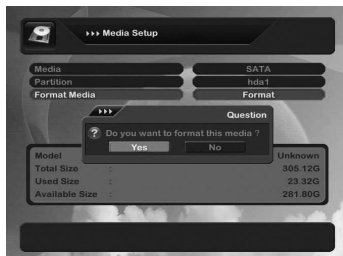
Media Setup



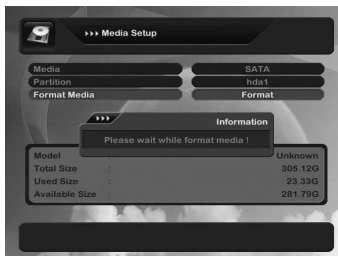
HDD information



Format confirmation message box



Format complete





## 5.9 Recording

- 1) Press REC button on RCU.
- 2) Recording will be started with tiny message box on upper right side displaying recording time & channel name.
- 3) To stop recording, press STOP button on RCU.



- 4) **BACKGROUND RECORDING** : You can switch to other channel to watch it while recording (recording channel and watching channel should belong to same TP)
- 5) As you try to move channel in different TP, recording could be stopped with confirmation message box.



Recording CH : Luxe-TV-HD  
Live Viewing CH : RAI Interna

## 5.10 Play Back

- 1) To browse recorded files in HDD, go to FILE MANAGER MENU.
- 2) Selecting one of them, small preview window opened and play automatically.

Recorded file lists



Small window preview  
Rename, Delete, Sort option available





## 5.10 Play Back

- 3) For full screen playback, press OK button on RCU
- 4) For playback information, press **i** button on RCU

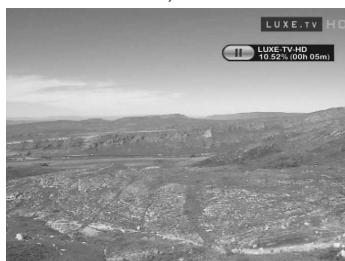
full screen playback



playback information



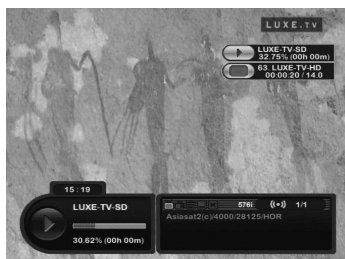
Pause by II button



2X speed playback by ►► button



- 5) **PLAYBACK while RECORDING** : You can playback recorded file while recording live channel.  
Start recording and then follow No.3 PLAYBACK procedure.



**Playback file :** LUXE-TV-SD  
**Recording channel :** LUXE-TV-HD





## 6. Appendix.

### 6.1 Troubleshooting

Problem	Solution
<b>No display LED on the front panel. No power supply.</b>	<ul style="list-style-type: none"><li>• Power cord plug in correctly.</li></ul>
<b>No picture.</b>	<ul style="list-style-type: none"><li>• Ensure that the receiver is switched on.</li><li>• Check connection and correct.</li><li>• Check channel and video output and correct.</li></ul>
<b>Poor picture quality.</b>	<ul style="list-style-type: none"><li>• Check the signal level, if it is low.</li><li>• Check that the RF cable is properly connected.</li></ul>
<b>No sound.</b>	<ul style="list-style-type: none"><li>• Check the volume level of the TV and receiver.</li><li>• Check the mute status of the TV and receiver.</li><li>• Check the connection of audio cable.</li></ul>
<b>Remote control does not operate.</b>	<ul style="list-style-type: none"><li>• Point remote control directly towards the receiver.</li><li>• Check and replace batteries.</li><li>• Check that nothing blocks the front panel.</li></ul>
<b>Service is not running or scrambled.</b>	<ul style="list-style-type: none"><li>• Check that the smart card is appropriate for the selected service.</li></ul>
<b>You have forgotten your secret PIN code.</b>	<ul style="list-style-type: none"><li>• Refer to change PIN code of this user's manual.</li></ul>





## 6.2 Remote Control TV Setting

### 6.2.1 Programing the Remote Control

There are two ways to program the remote control ; Automatic Code Search or Direct Entry.

### 6.2.2 Using Automatic Code Search

1. Turn on the component(TV) you want to control.
2. Press and hold the TV button until the LED on the remote control turns on, then release the key.
3. Point the remote at the component(TV), press and release the UP button, then wait three seconds or until the LED stops flashing.  
At this point the remote control is searching for the correct code to program.  
If, after three seconds, the component(TV) you want to control does not turn off, press and release UP button again to tell the remote to search the next set of codes.  
Continue pressing and releasing UP button until the component turns off.
4. If the component you want to control does turn off ;  
Press and release OK button, then the LED blinks three times.

### 6.2.3 Using Direct Entry Method

1. Turn on the component(TV) you want to control.
2. Locate the enclosed Code List. Find your brand of the component you want to control.
3. Press and hold the TV button until the LED on the remote control turns on, then release the key.
4. Enter 3-digit code from the code list, then the LED blinks three times.
5. If you get no reponse, repeat these steps using the next code listed for your brand until the component reponds to the remote control command.

### 6.2.4 Changing Volume Lock

Locking the volume controls to a single device makes it easier to control volume, without having to guess whether the volume will change. If you lock the remote's volume controls to the TV, you will always be able to change the volume to the level you want, without having to adjust it on multiple devices.

**If you want to lock the volume for the TV system ;**

1. Press and hold the STB component key until the LED on the remote control turns on.
2. Enter 3-digit code, 999.
3. Press and release the STB component key, then the LED blinks three times.

**Unlocking volume control ;**

**If you want to unlock the volume for the STB component ;**

1. Press and hold the STB button until the LED on the remote control turns on.
2. Enter 3-digit code, 999.
3. Press and release the STB component key, then the LED blinks three times.











## 6.2 Remote Control TV Setting

### Brand List for TV

RADIX 298	SAMSUNG 205 206 208 209 215	SIAREM 329 362 384 397 410	STENWAY 274
RANK 395	216 218 224 229 253	SICATEL 320	STERN 244 270 275 309 312
RANK ARENA 207 395 416 417 418	260 270 277 286 287	SIEMENS 208 250 251 269 286	
RBM 395	296 325 337 374 410	307	STRATO 208 224 270 286
RCA 210 211 228 229 230	412	SIERA 208 286	STYLANDIA 253
235	SAMSUX 252 253	SIESTA 374	SUNIC LINE 208 286
REALISTIC 205 206 209 215 229	SANSEI 282	SIGNATURE 226 242	SUNKAI 208 286 310 311 389
239 245 260 262 296	SANSUI 208 283 286 389 402	SILVA 208 286 307	SUNSTAR 208 224 270 286
RECOR 208 286	224	SILVER 207 208 261 286 307	SUNWOOD 208 224 286
RECTILIGNE 208 286	207 208 218 223 224	388 389 410	SUPERLA 253 384
REDIFFUSION 307 373	225 239 243 253 264	SIMPSON 267 268	SUPRATECH 208 224 286 307
REDSTAR 208 286	286 296 297 298 325	SINGER 208 224 286 329 362	SUPRA 215 224
REFLEX 208 286 346 400	326 361 374 376 398	397 410	SUSUMU 254
REKORD 359	404 409 410 413 420	SINUJYNE 208 241 286 307 329	SUTRON 224
REOC 387	424 425 426 432	362 384 397 405 410	SYDNEY 253
REVOX 208 286 374	SAVE 208 286	SKANTIC 309 406	SYLVANIA 200 202 204 205 213
REX 244 270 275 309 312	SBR 208 286	SKY 208 286	267 286 288
410	SCHNEIDER 205 253 254 270 286	SKYMASTER 399	SYMPHONIC 249
RFT 218 270 286 328 374	362 387 400 405 410	SLX 400	SYSLINE 208 286
380 397 413	SCIMITSU 229	SOGERA 308	
RHAPSODY 252 265 266	SCOTCH 260	SOLAVOX 206 208 218 244 286	[T]
RICOH 208 286	SCOTLAND 410	307 410	TANDNY 325
ROADSTAR 208 224 254 270 274	229 257 260 261 262	SONIKO 208 286	TANDBERG 307 312 408 410
286 323 346	SCOTT 210 213 215 229 239	SONNETRION 208 286	TANDY 218 230 244 253 254
ROBOTRON 397	SEARS 242 243 249 260 261	SONOKO 208 224 253 270 274	410
RODEX 208 286	296	SONOLOR 244 274 296 307 410	TASHIKO 207 253 313 407 410
ROWA 253 270 401 403	SEG 207 208 224 253 270	SONTEC 208 224 286 374	TATUNG 208 214 218 222 253
ROYAL LUX 331 374	286 328 329 346 396	SONY 206 207 208 225 320	286 325 384
RTF 208	400 405 408 410	264 272 285 286 329	TCM 387
RUNOPIR 208 286	SEI 307 405 410	424 426 430	TEAC 208 224 229 253 270
310 311	SEI-SINUJYNE 208 286 307 309 310	SOUND & VISION 208 286 329	274 286 287 307 323
[S]	311 329 384 397	SOUNDESIGN 229 260 261 262 267	331 346 362 389 400
SABA 244 305 307 309 397	312 321 322 373 408	SOUNDWAVE 208 286 323	401 402 403 405
384 410	SEMIVOX 262	SPECTRA 224 333	TEC 208 224 253 286 307
SAGEM 274 339 389	SEMP 242	SPECTRON 222	333 410
SAISHO 224 225 241 253 270	310 384 410	SQUAREVIEW 246	TECHLINE 208 286 329 400
310 384 410	SENCORA 224	SR2000 299	TECHNEMA 308
SAIVOD 208 286 410	SENTRA 224 242 394 405	SSS 229 262	TECHNICS 210 211 227 279
SAKIO 270	SERINO 389	SSANGYONG 224	TECHNISAT 208 286 330 410
SALORA 244 292 296 304 307	SHARP 207 209 230 245 384	SSS 229 262	TECHNOL ACE 261
309 325 364 365 366	SHINTOSHI 208 286	STAKSONIC 224	TECHWOOD 211 215 222
367 368 369 377 384	SHINAKI 208 286	STANDARD 208 224 253 254 286	TECHNIMAGEN 208
391 392 404 405 406	SHOGUN 229	308 346	TEDELEX 208 224 253 286 296
407 409 410 411 412	SHORAI 261 311	STARLITE 208 224 262 270 286	385
SAMBERS 329 379 384 396		331 410	224
SAMPO 205 206 209			
TEKNIKA 209 213 215 216 219	TRIAD 208 286	[W]	
226 229 237 261 262	TRIDENT 253 384	WALTHAM 208 253 286 304 309	
267	TRISTRAR 270	323 400 406	
TELECO 335	TRIUMPH 208 241 259 286 373	WARDS 200 201 203 204 205	
TELECOR 208 253 286 410	384	213 215 226 229 235	
TELEFUNKEN 208 215 286 376	TSOSCHI 274	242 245 260 261 268	
TELEGAZI 208 270 286 410	TV TEXT 287	WATSON 208 224 286 308 346	
TELEMEISTER 208 286 308	TV TEXT 95 208	400 410	
TELESONIC 208 286		WATT RADIO 307 329 362 405 410	
TELESTAR 208 286 331	[U]	WEGA 207 208 286 397	
TELETECH 208 224 286 400	UHER 208 286 308 323 329	WEGAVOX 208 224 286	
TELETON 207 253 267 309 405	374 376 396	WELTBLOCK 208 253 286	
410	ULTRA 289 325	WESTON 208 286	
TELEVIDEON 208 410	ULTRAVOX 208 286 329 362 397	WHARFEDALE 208 286	
TELEVIEW 208 286	410	WHITE 208 252 286 296 308	
TELEXA 329	UNIC LINE 208 286 381 389 405	WESTINGHOUSE 400	
TEMPREST 208 224 286	UNITED 208 286 387 388	WINDSOR 274	
TENNESSEE 208 286	UNIVERSAL 201 203	WINDSTAR 274	
TENSAI 208 224 253 254 286	UNIVERSUM 208 224 253 270 286	WINDY SAM 387	
289 408 311 388 398	287 307 312 323 373	WINTEL 387	
399 410	374 381 382 383 386	WORLD-TECH 333	
TENSON 224	395 396 398 399 400		
TESLA 335	405 408 410 412	[X]	
TEVION 208 286 400	UNIVOX 208 286 397 410	XRYPTON 208 286	
TEXTET 224 252 253 254	UTAX 410		
313 325	[V]		
THOMAS 208 258 286 345 405	VICTOR RESEARCH 205	[Y]	
THORN 208 218 242 285 286	VESTEL 208 253 286 346 400	YAMAHA 205 229	
407	410	YAMASHI 208 253 274 286 389	
THORN-FERGUSON 307 394 398	VEXA 208 224 286	YOKAN 208 286	
TMK 215 229 241 260	VICTOR 212	208 224 253 270 286	
TOKAI 208 224 253 286 325	VIDEOSYSTEM 208 286	333 374 404 409	
400 410	253	YORK 298	
TOKYO 394	VIDEOTECH 253	[Z]	
TOMASHI 274	VIDEOTON 304 406 410	ZANUSSI 253 275 309	
TOSHIBA 207 216 239 242 253	VIDIKRON 213 329	ZENITH 219 226 227	
259 296 298 329 370	VIDTECH 207 229 260	ZENOR 404	
394 395	VISA 207 208 224 225 244	ZONDA 222	
TOSONIC 266	258		
TOTEVISION 209	VISION 208 253 286 308		
TOWADA 253 309 329 405	VISTAR 307		
TOWODA 224	VORTEC 208 286		
TRAKTON 270	VOXSON 208 244 286 309 323		
TRANS CONTINENS 208 253 286 400	396 397 410		
TRANSONIC 208 270 286 287 389	VTQ 328		
401 403			



## 6.3 Specification

### DVB-S/S2 Tuner And Channel

RF Input Range	950MHz ~ 2150MHz
Input Connector	F-Type Female (With Loop-Through Output)
Input Impedance	75[Ohm]
Input Dynamic Range	-65dBm ~ -25dBm
Multi Demodulation Standard	DVB-S, DVB-S2 : QPSK, 8PSK
Symbol Rate	DVB-S : QPSK Maximum 45Msps @ 2~45Msps DVB-S2 : 8PSK/QPSK Maximum 30Msps @ 10~30Msps
Multi Decoding Method Standard	LDPC/BCH DVB-S2(1/2, 2/3, 3/4, 3/5, 4/5, 5/6, 8/9, 9/10)

### DVB-S/S2 MPEG TS A/V Decoding

Transport Stream Format	MPEG-4 Part10 AVC/H.264 HD HP@L4.1 1920x1080@50Hz(ISO/IEC 13818 MPEG-2 TS Specifications)
Profile Level	MPEG-2 MP@HL, MPEG-4 Part10 AVC/H.264 HD HP@L4.1
Input Rate	Maximum 90Mb/s
Video Aspect Ratio	4:3, Letter Box, 16:9, Pan & Scan
Video Display Resolution	1920x1080i, 1280x720p, 720x576i/p, 720x480i/p @ 50/60Hz
Audio Decoding Format	Dolby Digital bit-streams, MPEG-1 Layer 1,2,3
Audio Output Mode	Mono, Left, Right, Stereo, Dolby Digital bit-streams(PCM 5.1 Channel, Stereo down-mixed Dolby ProLogic)

### DVB-T Tuner And Channel

RF Input Range	VHF-High Band 149.5MHz ~ 426MHz, VHF-Low Band 50.5MHz ~ 142.5MHz, UHF-Band 434MHz ~ 858MHz
Input/ Loop-Through Output Connector	1 x Din Jack for DVB-T, 1x Din Jack for DVB-T Loop-Through Output (IEC 169-2 Female/Male)
Input Impedance	75[Ohms] Nominal
Input Signal Level	-80dBm ~ -5dBm(64QAM, Code Rate 2/3, Guard Interval 1/32, Gaussian Channel)
Digital Modulation Scheme	QPSK, 16-QAM, 64-QAM(Constellation)
Guard Interval	1/4, 1/8, 1/16 and 1/32
Modulation Mode	2K, 4k, 8K modes
Supporting System	DVB-T(COFDM) Compliant (Frequency Band Modulation) ETSI 300 744
IF BandWidth	6/7/8MHz channel
FEC Code Rates	1/2, 2/3, 3/4, 5/6, 7/8





## 6.3 Specification

### DVB-T MPEG TS A/V Decoding

Transport Stream Format	MPEG-4 Part10 AVC/H.264 HD HP@L4.1 1920x1080@50/60Hz(MPEG-2 ISO/IEC 13818 Transport Stream Specification)
Profile Level	MPEG-2 MP@HL, MPEG-4 Part10 AVC/H.264 HD HP@L4.1
Input Rate	Maximum 31.668450Mb/s, 27.709893Mb/s
Video Aspect Ratio	4:3, Letter Box, 16:9, Pan & Scan
Video Display Resolution	1920x1080i, 1280x720p, 720x576i/p, 720x480i/p @ 50/60Hz
Audio Decoding Format	Dolby Digital bit-streams, MPEG-1 Layer 1,2,3
Audio Output Mode	Mono, Left, Right, Stereo, Dolby Digital bit-streams(PCM 5.1 Channel, Stereo down-mixed Dolby ProLogic)

### A/V And Data Output

Analog Component YPbPr	1 Set(3xRCA Vertical Array Type)
CVBS(Composite Video), Stereo Audio	1 Set(3xRCA Vertical Array Type)
S/PDIF Dolby Digital Interface	1 Optical(Fiber Optic Type)
HDMI (with HDCP Option)	1 Connector
SCART Interface	TV/VCR
USB2.0 Host Interface	2 USB A-Type Connector
Ethernet	1 Connector RJ-45 10/100 Base-T
RS-232C Data Port D-Sub9 Interface	Transfer Rate 115,200bps(Firmware Upgrade Port)

### Conditional Access Interface

PCM CIA	2 Slots For DVB Common Interface Standard
Smart Card	2 Smart Card Support

### Storage Device

SATA(Serial ATA)	1 External eSATA Port
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### System Resource Information

Main Processor	300MHz MIPS32TM/16-e class CPU
Flash ROM	Default 32Mbytes
DDR SDRAM	Default 256Mbytes

### Power Supply

Input Voltage	AC 100-240V ~ 50/60Hz
Power Consumption	Maximum 35Watts
Protection	Separate Internal Fuse
Type	SMPS(Switching Mode Power Supply)
Safety And EMI	For Country Regulation

### Physical Specification

Dimension(WxDxH)	340x268x60[mm]
Net Weight	About 3.0Kg
Operation Temperature	5°C ~ 50°C
Storage Temperature	-40°C ~ 65°C





## 6.2 Tālvadības kontroles TV iestatījumi

### Zimolu saraksts TV

RADIX 298	SAMSUNG 205 206 208 209 215	SIAREM 329 362 384 397 410	STENWAY 274
RANK 395	216 218 224 229 253	SICATEL 320	STERN 244 270 275 309 312
RANK ARENA 207 395 416 417 418	260 270 277 286 287	SIEMENS 208 250 251 269 286	STRATO 208 224 270 286
419	296 325 337 374 410	307	STYLANDIA 253
395	412	SIERA 208 286	SUNIC LINE 208 286
RBM 209	SAMSUX 252 253	SIESTA 374	SUNKAI 208 286 310 311 389
RCA 210 211 228 229 230	SANSEI 282	SIGNATURE 226 242	SUNSTAR 208 224 270 286
235	SANSUI 208 283 286 389 402	SILVA 208 286 307	SUNWOOD 208 224 286
REALISTIC 205 206 209 215 229	SANTON 224	SILVER 207 208 261 286 307	SUPERLA 253 384
239 245 260 262 296	SANTO 207 208 218 223 224	388 389 410	SUPRA 215 224
RECOR 208 286	225 239 243 253 264	SIMPSON 267 268	SUPRETECH 208 224 286 307
RECTILIGNE 208 286	286 296 297 298 325	SINGER 208 224 286 329 362	SUSUMU 254
REDIFFUSION 307 373	326 361 374 376 398	397 410	SUTRON 224
REDSTAR 208 286	404 409 410 413 420	SINUDYNE 208 241 286 307 329	SYDNEY 253
REFLEX 208 286 346 400	424 425 426 432	362 384 397 405 410	SYLVANIA 200 202 204 205 213
REKORD 359	SAVE 208 286	SKANTIC 309 406	267 268 288
REOC 387	SBR 208 286	SKY 208 286	SYMPHONIC 249
REVOX 208 286 374	SCHAUBLORENZ 307 309 376 385 387	SKYMASTER 399	SYSLINE 208 286
REX 244 270 275 309 312	405	SLX 400	[T] TANDNY 325
410	SCHEIDER 205 253 254 270 286	SOGERA 308	TANDBERG 307 312 408 410
RFT 218 270 286 328 374	362 387 400 405 410	SOLAVOX 206 208 218 244 286	TANDY 218 230 244 253 254
380 397 413	SCIMITSU 229	307 410	410
RHAPSODY 252 265 266	SCOTCH 260	SONIKO 208 286	TASHIKO 207 253 313 407 410
RICOH 208 286	SCOTLAND 410	SONITRON 253 296 298 374 404	TATUNG 208 214 218 222 253
ROADSTAR 208 323 346	SCOTT 229 257 260 261 262	SONNECLAIR 208 286	286 325 384
331 374	SEARS 210 213 215 229 239	SONOKO 208 224 253 270 274	TCM 387
ROBOTRON 397	242 243 249 260 261	286	TEAC 208 224 229 253 270
RODEX 208 286	296	SONOLOR 244 274 296 307 410	274 286 287 307 323
ROWA 253 270 401 403	SEG 207 208 224 253 270	SONTEC 208 224 286 374	331 346 362 389 400
ROYAL LUX 331 374	286 328 329 346 396	SONY 206 207 208 225 30	401 402 403 405
RTF 208	400 405 408 410	264 272 285 286 329	TEC 208 224 253 286 307
RUNOPIR 208 286	SEI 307 405 410	424 426 430	333 410
3105 227	SEI-SINUDYNE 208 286 307 309 310	SOUND & VISION 208 286 329	TECHLINE 208 286 329 400
[S] 310	311 329 384 397	SOUNDESIGN 229 260 261 262 267	TECHNEMA 308
SABA 244 305 307 309 397	312 321 322 373 408	SOUNDWAVE 208 286 323	TECHNISAT 208 286 330 410
384 410	SEMIVOX 262	SPECTRA 224 333	TECHNOL ACE 261
SAGEM 274 339 389	SEMP 242	SPECTRON 222	TECHWOOD 211 215 222
SAISHO 224 225 241 253 270	SENCORA 224	SQUAREVIEW 246	TECHNIMAGEN 208
310 384 410	SENTRA 224 242 394 405	SR2000 299	TEDELEX 208 224 253 286 296
SAIVOD 208 286 410	SERINO 389	SSS 229 262	385
SAKIO 270	SHARP 207 209 230 245 384	STAKSONIC 224	224
SALORA 244 292 296 304 307	SHINTOSHI 208 286	STANDARD 208 224 253 254 286	
367 368 369 377 384	SHINAKI 208 286	308 346	
391 392 404 405 406	SHOGUN 229	STARLITE 208 224 262 270 286	
407 409 410 411 412	SHORAI 261 311	331 410	
SAMBERS 329 379 384 396			
SAMPO 205 206 209			
TEKNIKA 209 213 215 216 219	TRIAD 208 286	[W] WALTHAM 208 253 286 304 309	
226 229 237 261 262	TRIDENT 253 384	323 400 406	
267	TRISTRAR 270	WARDS 200 201 203 204 205	
TELECO 335	TRIUMPH 208 241 259 286 373	213 215 226 229 235	
TELECOR 208 253 286 410	384	242 245 260 261 266	
TELEFUNKEN 208 215 286 376	TSOSCHI 274	WATSON 208 224 286 308 346	
TELEGAZI 208 270 286 410	TV TEXT 287	400 410	
TELEMEISTER 208 286 308	TV TEXT 95 208	WATT RADIO 307 329 362 405 410	
TELESONIC 208 286	[U] UHER 208 286 308 323 329	WEGA 207 208 286 397	
TELESTAR 208 286 331	374 376 396	WEGAVOX 208 224 286	
TELETECH 208 224 286 400	ULTRA 289 325	WELTBLOCK 208 253 286	
TELETON 207 253 267 309 405	ULTRAVOX 208 286 329 362 397	WESTON 208 286	
410	410	WHARFEDALE 208 286	
TELEVIDEON 308 410	UNIC LINE 208 286 381 389 405	WHITE 208 252 286 296 308	
TELEVIEW 208 286	UNITED 208 286 387 388	WESTINGHOUSE 400	
TELEXA 329	UNIVERSAL 201 203	WINDSOR 274	
TEMPREST 208 224 286	UNIVERSUM 208 224 253 270 286	WINDY SAM 387	
TENNESSEE 208 286	287 307 312 323 373	WINTEL 387	
TENSAI 208 224 253 254 286	374 381 382 383 386	WORLD-TECH 333	
299 408 311 388 398	395 396 398 399 400		
407	405 408 410 412	[X] XRYPTON 208 286	
TENSON 224	UNIVOX 208 286 397 410		
TESLA 335	UTAX 410	[Y] YAMAHA 205 229	
TEVION 208 286 400	[V] VICTOR RESEARCH 205	YAMASHI 208 253 274 286 389	
TEXTET 224 252 253 254	VESTEL 208 253 286 346 400	YOKAN 208 286	
313 325	410	208 224 253 270 286	
THOMAS 208 258 286 345 405	VEXA 208 224 286	333 374 404 409	
THOMSON 208 218 242 285 286	VICTOR 212	YORK 298	
287 297 298 307 313	VIDEOSYSTEM 208 286		
315 326 327 394 398	253	[Z] ZANUSSI 253 275 309	
407	VIDEOTECHNIC 253	ZENITH 219 226 227	
THORN-FERGUSON 307 394 398	VIDEOTON 304 406 410	ZENOR 404	
TMK 215 229 241 260	VIDIKRON 213 329	ZONDA 222	
TOKAI 208 224 253 286 325	VIDTECH 207 229 260		
400 410	VISA 207 208 224 225 244		
TOKYO 394	258		
TOMASHI 274	VISION 208 253 286 308		
TOSHIBA 207 216 239 242 253	VISTAR 307		
259 296 298 329 370	VORTEC 208 286		
394 395	VOXSON 208 244 286 309 323		
TOSONIC 266	396 397 410		
TOTEVISION 209	VTQ 328		
TOWADA 253 309 329 405			
TOYODA 224			
TRAKTON 270			
TRANS CONTINENS 208 253 286 400			
TRANSONIC 208 270 286 287 389			
401 403			



## 6.3 Specifikācijas

### DVB-S/S2 uztvērējs un kanāli

RF ievades diapazons	950MHz ~ 2150MHz
ievades savienotājs	F-tipa sievišķais (ar Loop-Through izvadi)
ievades pretestība	75[Ohm]
ievades dinamiskais diapazons	-65dBm ~ -25dBm
Multi demodulācija Standarta	DVB-S, DVB-S2 : QPSK, 8PSK
simbolu ātrums	DVB-S : QPSK maks. 45Msps @ 2~45Msps DVB-S2 : 8PSK/QPSK maks. 30Msps @ 10~30Msps
Multi dekodēšanas metodes standarts	LDPC/BCH DVB-S2(1/2, 2/3, 3/4, 3/5, 4/5, 5/6, 8/9, 9/10)

### DVB-S/S2 MPEG TS A/V Dekodēšana

Transporta straumēšanas formāts	MPEG-4 Part10 AVC/H.264 HD HP@L4.1 1920x1080@50Hz(ISO/IEC 13818 MPEG-2 TS specifikācijas)
Profilu līmenis	MPEG-2 MP@HL, MPEG-4 Part10 AVC/H.264 HD HP@L4.1
ievades ātrums	Maks. 90Mb/s
Video ekrāna formāts	4:3, „Letter Box”, 16:9, „Pan & Scan”
Video displeja izšķirtspēja	1920x1080i, 1280x720p, 720x576i/p, 720x480i/p @ 50/60Hz
Audio dekodēšanas formāts	Dolby Digital bit-straumes, MPEG-1 slānis 1,2,3
Audio ievades režīms	Mono, kreisais, labais, Stereo, Dolby Digital bit-straumes(PCM 5.1 kanāls, Stereo lejupvērtais-jauktais Dolby ProLogic)

### DVB-T Tuner And Channel

RF ievades diapazons	VHF-augsta josla 149.5MHz ~ 426MHz, VHF-zema josla 50.5MHz ~ 142.5MHz, UHF-josla 434MHz ~ 858MHz
ievade/ Loop-Through Ievades savienotājs	1 x Din ligzda priekš DVB-T, 1x Din ligzda priekš DVB-T Loop-Through ievade (IEC 169-2 sievišķais/vīrišķais)
ievades pretestība	75[Ohms] Nominālais
ievades signāla līmenis	-80dBm ~ -5dBm(64QAM, Koda ātrums 2/3, Aizsardzības intervāls 1/32, „Gaussian” kanāls)
Digitālā modulācijas shēma	QPSK, 16-QAM, 64-QAM („Constellation”)
Aizsardzības intervāls	1/4, 1/8, 1/16 un 1/32
Modulācijas režīms	2K, 4k, 8K režīmi
Atbalsta sistēma	DVB-T(COFDM) savietojams (Frekvences joslas modulācija) ETSI 300 744
IF joslas platums	6/7/8MHz kanāls
FEC koda ātrums	1/2, 2/3, 3/4, 5/6, 7/8





## 6.3 Specifikācijas

### DVB-T MPEG TS A/V dekodēšana

Transportēšanas straumes formāts	MPEG-4 Part10 AVC/H.264 HD HP@L4.1 1920x1080@50/60Hz(MPEG-2 ISO/IEC 13818 transportēšanas straumes specifikācijas)
Profila līmenis	MPEG-2 MP@HL, MPEG-4 Part10 AVC/H.264 HD HP@L4.1
Ievades ātrums	Maks. 31.668450Mb/s, 27.709893Mb/s
Video ekrāna formāts	4:3, „Letter Box”, 16:9, „Pan & Scan”
Video displeja izšķirtspēja	1920x1080i, 1280x720p, 720x576i/p, 720x480i/p @ 50/60Hz
Audio dekodēšanas formāts	Dolby Digital bit-straumes, MPEG-1 slānis 1,2,3
Audio izvades režīms	Mono, kreisais, labais, Stereo, Dolby Digital bit-straumes(PCM 5.1 kanāls, Stereo lejupvērtais-jauktais Dolby ProLogic)

### A/V un datu izvade

Analogais komponents YPbPr	1 kompl.(3xRCA vertikālās bultas tips)
CVBS(Kompozītu Video), Stereo Audio	1 kompl. (3xRCA vertikālās bultas tips)
S/PDIF Dolby Digital interfeiss	1 optiskais(šķiedru optiskais tips)
HDMI (ar HDCP opciju)	1 savienotājs
SCART interfeiss	TV/VCR
USB2.0 Host interfeiss	2 USB A-tipa savienotājs
Ethernet	1 savienotājs RJ-45 10/100 bāzes-T
RS-232C datu porta D-Sub9 interfeiss	Pārsūtīšanas ātrums 115,200bps(aparātūras atjaunināšanas ports)

### Nosacījuma piekļuves interfeiss

PCMCIA	2 sloti DVB kopējam interfeisa standartam
Smart karte	2 Smart kartes atbalsti

### Uzglabāšanas ierīce

SATA(Serial ATA)	1 Ārējais eSATA Ports
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### Sistēmas resursu informācija

Galvenais Procesors	300MHz MIPS32TM/16-e class CPU
Flash ROM	32Mbaiti
DDR SDRAM	Noklusējuma 256Mbaiti

### Strāvas padeve

Ievades voltāža	AC 100-240V ~ 50/60Hz
Enerģijas patēriņš	maks. 35vati
Aizsardzība	Atsevišķs iekšējais drošinātājs
Tips	SMPS(ieslēgšanas režīma strāvas padeve)
Drošība un EMI	Valsts regulām

### Fiziskās specifikācijas

Izmēri(PxDxA)	340x268x60[mm]
Neto svars	apm. 3.0Kg
Operation Temperature	5°C ~ 50°C
Storage Temperature	-40°C ~ 65°C

